C H A P T E R 3

C O M M U N I C A T I O N S

1) COMMUNICATIONS WITH THE COAST GUARD ON VHF-FM AND HF (SSB)

The voice frequencies of 157.1 MHz (**Channel 22A**) and 2670 kHz are U.S. Coast Guard frequencies reserved for liaison between the Coast Guard and non-government vessels, and for Coast Guard Marine Information Broadcasts. Coast Guard Stations do not monitor these frequencies, but can shift to these frequencies after an initial call on 156.8 MHz (Channel 16) or 2182 kHz.
NOTE: Since very high frequency (VHF) radio propagation requires direct line of sight, there will be some reduction of reception in local shadow areas behind hills, mountains, cliffs, the backside of offshore islands, etc.

2) CHANNEL 16 (156.8 MHz)

This is the international VHF-FM radiotelephone distress, safety and calling frequency used for distress and urgent traffic, safety signals, marine information broadcasts, and general calling and reply. After the preliminary call to establish communications, mariners should shift as soon as possible to an appropriate working frequency. In order to facilitate the reception of distress traffic, all transmissions should be kept to an absolute minimum and must not exceed one minute.

a) Channel 16 Call-Up Procedure

1) Call up the vessel you are attempting to contact using the **vessel's name.** The name is spoken **twice**.

2) Next, send the **name of your vessel and call sign** spoken twice prefaced by the phrase: **this is.**

3) End the call-up by saying, **"channel 16, over."**

4) When the vessel being called answers, shift to an agreed upon channel.

b) NO RADIO CHECKS ON CHANNEL 16

A Federal Communications Commission ruling prohibits boaters from using Channel 16 for non-emergency radio checks. Do not ask for or respond to a radio check on channel 16.

UNDERSTAND AND FOLLOW THESE PROCEDURES AT ALL TIMES

1. Use Channel 16 for Distress and Hailing only.
2. Keep all calling on Channel 16 to an absolute minimum.
3. It is illegal to use Channel 16 for Radio Checks.
4. LISTEN before transmitting--don't interfere with other stations' calls.
5. Don't call Marine Operators on Channel 16. Use working channels.
6. Children should be taught how to operate a radio in case of emergency.
7. Children should also be taught that a RADIO IS NOT A TOY!
8. Use LOW POWER as often as possible.
9. NO unnecessary communications are permitted on VHF.
10. Never use a Telephone Credit Card on your VHF-- others can hear your number. Use a Marine Telephone Identification Number (MIN).

3) CHANNEL 13 (156.65 MHz)

This is the Vessel Bridge-to-Bridge Radiotelephone frequency. A vessel is required to participate in the Bridge-to-Bridge Radiotelephone system if it is: 300 gross tons or more; 100 gross tons and over carrying one or more passengers for hire; 26 feet or longer engaged in towing; or, a dredge or floating plant in or near a channel or fairway and engaged in operations likely to restrict or affect navigation of other vessels. This system is for vessels to transmit and/or confirm their intentions in overtaking, meeting or crossing situations, and to provide any other necessary information for navigational safety.

4) HIGH POWER VS LOW POWER

VHF-FM sets have low power and high power settings. Call-ups, and other communications on VHF-FM should be done on low power first. If communications cannot be successfully maintained on low power, switch to high power.

5) VHF FREQUENCIES AND CHANNEL USAGE- Partial List

The information presented below is an extract from the "Maritime Radio Users handbook" published by the Radio Technical Commission for Marine Services. This valuable, comprehensive publication can be ordered from: Radio Technical Commission for Maritime Services, 655 Fifteenth Street, N.W., Suite 300, Washington, D.C. 20005-5701.

CHANNEL NUMBER		SHIP TRANSMIT	SHIP RECEIVE	INTENDED USE
1A		156.050	156.050	PORT OPERATIONS AND COMMERCIAL
5A		156.250	156.250	PORT OPERATIONS
6		156.300	156.300	INTERSHIP SAFETY
7A		156.350	156.350	COMMERCIAL
8		156.400	156.400	COMMERCIAL (Ship-to-ship)
9		156.450	156.450	NON-COMMERCIAL
10		156.500	156.500	COMMERCIAL
11		156.550	156.550	COMMERCIAL
12		156.600	156.600	PORT OPERATIONS (Traffic advisories)
13		156.650	156.650	NAVIGATIONAL (ship's) BRIDGE TO (ship's) BRIDGE.
14		156.700	156.700	PORT OPERATIONS (Traffic advisories/VTS in some ports)
16		156.800	156.800	INTERNATIONAL DISTRESS, SAFETY, AND CALLING
17		156.850	156.850	STATE OR LOCAL GOVERNMENT CONTROL.
18A	156.900	156.900		COMMERCIAL
19A	156.950	156.950		COMMERCIAL
20		157.000	161.600	PORT OPERATIONS (Traffic advisories)
22A	157.100	157.100		COAST GUARD LIAISON.
24		157.200	161.800	PUBLIC CORRESPONDENCE (Ship-to-Coast).
25		157.250	161.850	PUBLIC CORRESPONDENCE (Ship-to-Coast).
26		157.300	161.900	PUBLIC CORRESPONDENCE (Ship-to-Coast).
27		157.350	161.950	PUBLIC CORRESPONDENCE (Ship-to-Coast).
28		157.400	162.000	PUBLIC CORRESPONDENCE (Ship-to-Coast).
63A	156.175	156.175		PORT OPERATIONS AND COMMERCIAL
65A	156.275	156.275		PORT OPERATIONS (Traffic advisories)
66A	156.325	156.325		PORT OPERATIONS (Traffic advisories)
67		156.375	156.375	COMMERCIAL (Intership)
68		156.425	156.425	ON-COMMERCIAL
69		156.475	156.475	NON-COMMERCIAL
71		156.575	156.575	NON-COMMERCIAL
72		156.625	156.625	NON-COMMERCIAL (Intership)
73		156.675	156.675	PORT OPERATIONS (Traffic advisories)
74		156.725	156.725	PORT OPERATIONS (Traffic advisories)
77		156.875	156.875	PORT OPERATIONS (Intership, to and from pilots docking ships)
78A	156.925	156.925		NON-COMMERCIAL
79A	156.975	156.975		COMMERCIAL
80A	157.025	157.025		COMMERCIAL
84		157.225	161.825	PUBLIC CORRESPONDENCE (Ship-to-Coast)
85		157.275	161.875	PUBLIC CORRESPONDENCE (Ship-to-Coast)
86		157.325	161.925	PUBLIC CORRESPONDENCE (Ship-to-Coast)
87		157.375	161.975	PUBLIC CORRESPONDENCE (Ship-to-Coast)
88		157.425	157.425	PUBLIC CORRESPONDENCE (Ship-to-Coast)
88A	157.425	157.425		COMMERCIAL/FISHING (Intership)

NOTE: The letter “A” appended to a channel number indicates that U.S operation of that particular channel is different than the international operation (i.e. U.S. stations transmit and receive on the same frequency and international stations use different frequencies.) Vessels equipped for U.S. operations only will experience difficulty communication with foreign ships and coast stations on these channels.

6) HIGH FREQUENCY INFORMATION

At most Coast Guard Radio and Communications Stations throughout the U.S., HF-SSB frequencies are monitored. In the Pacific, three Coast Guard Communications Stations guard HF-SSB frequencies during the times shown in the chart below:

a) CARRIER FREQUENCIES (kHz)

SHIP TRANSMIT	SHORE TRANSMIT	POINT REYES (NMC)	HONOLULU (NMO)	KODIAK (NOJ)
4134.0	4426.0	0000-2400Z	0600-1800Z	ON REQUEST
6200.0	6501.0	0000-2400Z	0000-2400Z	0000-2400Z
8240.0	8764.0	0000-2400Z	0000-2400Z	ON REQUEST
12242.0	13089.0	ON REQUEST	1800-0600Z	ON REQUEST
16432.0	17314.0	ON REQUEST		ON REQUEST

b) HIGH SEAS WEATHER BROADCASTS ARE TRANSMITTED ON THE ABOVE FREQUENCIES AS FOLLOWS:

POINT REYES (NMC)	HONOLULU (NMO)	KODIAK (NOJ)
4, 8 and 13 MHz	**6 and 8 MHz**	**6 MHz**
0430 UTC	0600 UTC	0203 UTC
1030 UTC	1000 UTC	1645 UTC
8, 13 and 17 MHz	**8 and 13 MHz**	
1630 UTC	0005 UTC	
2230 UTC	1800 UTC	

7) CONTINUOUS WEATHER INFORMATION VIA VHF-FM RADIO (WX1 &WX2)

The National Weather Service (NWS) has established a network of VHF-FM continuous weather information radio stations. This network provides present conditions and near future forecasts with special emphasis on weather and river warnings. Programming will vary somewhat according to the season and to weather situations. Individuals and organizations requiring frequent updates to weather situations should be able to satisfy most of their requirements by referring to one of the radio weather channels.

a) WEATHER BROADCAST FREQUENCIES

WX1	162.550	WEATHER (Receive only). To receive weather broadcasts of the Department of Commerce, National Oceanic and Atmospheric administration (NOAA).
WX2	162.400	WEATHER (Receive only). Same as WX1.
WX3	162.475	WEATHER (Receive only). Same as WX1.

b) NATIONAL WEATHER SERVICE TRANSMITTING STATIONS

CALIFORNIA

NWR TRANSMITTER	CA	CALL	FREQ Mhz	WATTS	NWS PROGRAMMING OFFICE
Bakersfield	CA	WXL89	162.550	100	San Joaquin
Coachella	CA	KIG78	162.400	100	San Diego
Eureka	CA	KEC82	162.400	330	Eureka
Fresno	CA	KIH62	162.400	330	San Joaquin
Grass Valley	CA	WWF67	162.400	100	Sacramento
Los Angeles	CA	KWO37	162.550	500	Los Angeles
Monterey	CA	KEC49	162.550	100	San Francisco
Monterey Marine	CA	WWF64	162.450	100	San Francisco
Pt. Arena/Ukiah	CA	KIH30	162.550	500	Eureka
Redding	CA	WXL88	162.550	100	Sacramento
Sacramento	CA	KEC57	162.550	330	Sacramento
San Diego	CA	KEC62	162.400	330	San Diego
San Francisco	CA	KHB49	162.400	500	San Francisco
San Luis Obispo	CA	KIH31	162.550	330	Los Angeles
Santa Ana	CA	WWG21	162.450	100	San Diego
Santa Barbara Marine	CA	WWF62	162.475	100	Los Angeles
Santa Barbara	CA	KIH34	162.400	330	Los Angeles

8) HIGH SEAS WEATHER FACSIMILE BROADCAST SCHEDULE AND FREQUENCIES

Four HF transmitters are used to radiate an audio signal received via landline from the National Weather Service. Broadcasts are made from Point Reyes, California at times and frequencies indicated (mode of operations is HF USB).

Carrier Frequency	Times (Z)/ Simultaneous
04344.1	0230, 0750, 1100, 1430, 1930, 2300 (4/8/12/17 mHz)
08680.1	
12728.1	
17149.3	

Broadcasts from Kodiak, Alaska on frequencies 2052.1, 4296.1, 8457.1 and 12410.6 MHz at 0400, 10000, 1800 and 2200 (all times Zulu).

9) BROADCAST NOTICE TO MARINERS

Broadcast Notice to Mariners (BNMs) are issued by the Coast Guard in order to disseminate important marine information to the maritime community. BNMs will always be issued for the establishment, discontinuance, changes or discrepancies in Aids to Navigation. Marine obstructions, temporary changes in bridge clearance, interruptions in normal drawbridge operations, dredging, shoaling or changes in channel widths, hazardous military operations, and other hazards to navigation will be broadcast as necessary for safe navigation.

10) COAST GUARD MARINE SAFETY BROADCASTS

The Coast Guard broadcasts marine safety information on VHF-FM Channel 22A (157.1 MHz) and on 2670 kHz single side band (SSB). These safety broadcasts contain information such as Notice to Mariners, storm warnings, distress warnings, and other information vital to safe navigation.

Following a preliminary call on VHF-FM Channel 16 (156.8 MHz) and/or 2182 kHz, mariners will be instructed to shift to VHF-FM Channel 22A (157.1 MHz) or 2670 kHz (SSB) respectively.

If you are planning a voyage and do not have VHF radios tunable to the United States Channel 22A you are urged to obtain the necessary equipment. As a minimum, you should continually monitor 2182 kHz (SSB) for announcements of Coast Guard marine broadcasts on 2670 kHz (SSB).

SCHEDULE OF MARINE INFORMATION Including Broadcast Notice to Mariners and Weather

STATION	UTC TIMES	FREQUENCY	VHF-FM CHANNEL
GROUP SAN FRANCISCO	1630, 1900 & 2330	157.1 MHz	22A
	0203, 1403	2670 kHz	N/A
GROUP HUMBOLDT BAY	1615 & 2315	157.1 MHz	22A
	0303 & 1503	2670 kHz	N/A
GROUP SAN DIEGO	0100 & 1700	157.1 MHz	22A
GROUP LOS ANGELES/LONG BEACH	0200 & 1800	157.1 MHz	22A
	0503, 1303, 2103	2670 kHz	N/A

11) GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS)

The primary purpose of GMDSS is to improve communications to and from ships at sea by automatically identifying the caller and the location of a vessel in distress; the components of GMDSS rely primarily on satellite communications instead of traditional terrestrial communications.

Ships equipped with GMDSS equipment must be able to perform the following functions:

Transmitting ship-to-shore distress alerts.

Transmitting and receiving ship-to-ship distress alerts.

Receiving shore-to-ship distress alerts.

Transmitting and receiving Search and Rescue (SAR) coordination communications.

Transmitting and receiving on-scene communications.

Transmitting and receiving of locating signals.

Transmitting and receiving Maritime Safety Information (MSI);

Transmitting and receiving general radio communications (ship-to-ship and ship-to-shore).

Transmitting and receiving bridge-to-bridge communications.

GMDSS consists of numerous telecommunications sub-systems, two of which are explained below.

12) DIGITAL SELECTIVE CALLING (DSC)

DSC is a communications system utilized for calling and distress via VHF-FM/MF/HF. Coast Guard Communications Stations at Point Reyes, CA, Honolulu, HI, and Kodiak, AK maintain a continuous guard on the following MF and HF DSC distress frequencies: 2187.5kHz, 4207.5kHz, 6312.0kHz, 8414.5kHz, 12577.0kHz, 16804.5kHz.

13) NAVIGATION WARNING SYSTEM (NAVTEX)

NAVTEX is a method of receiving Notices to Mariners and marine weather forecasts using small, low cost printing receivers. Each NAVTEX broadcast contains a four-character header, which identifies the broadcast station, message content, and message serial number. The microprocessor screens this heading to provide the receiver with only the messages relevant to the user. Relevant messages are printed as received, to be read at the mariner's convenience. Mariners unable to monitor a radio 24-hours per day should find significant advantage in owning a NAVTEX receiver.

Information available over NAVTEX includes, but is not limited to: Broadcast Notices to Mariners, offshore weather forecasts, offshore marine advisories, search and rescue information, and electronic navigation information.

SCHEDULE OF NAVTEX TRANSMISSIONS Including Broadcast Notice to Mariners and Weather

STATION & ID POINT REYES	UTC	FREQUENCY
"C"	0005, 0400, 0800, 1200 1600, 2000	518 MHz
"Q"	0045, 0445, 0845, 1245 1645, 2045	518 MHz
"W"	0130, 0530, 0930, 1330 1730, 2130	518 MHz

14) ADDITIONAL INFORMATIION

Additional information regarding Marine Information Broadcasts can be obtained on the Coast Guard's Navigation Center web site at **http://www.navcen.uscg.mi/marcomms/**